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BELLSOUTH

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June 30, 1999

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EX PARTE

ORIGINAL

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
The Portals
445 12th Street, S.W.
Washington, D.C. 20554

RECEIVED

JUN 30 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: CC Docket No. 98-121

Dear Ms. Salas:

On June 29, 1999, Robert Blau, William Stacy and I, representing BellSouth, met with Commission staff to describe and answer questions relating to the Third-Party OSS Testing plan adopted by the Georgia Public Service Commission earlier this month. Staff members attending some or all of this meeting included: Linda Kinney, Legal Advisor to Commissioner Ness; Sarah Whitesell, Legal Advisor to Commissioner Tristani; and Margaret Egler, William Agee, Sanford Williams, and Andrea Kearney of the Common Carrier Bureau's Policy and Program Planning Division. The attached documents provided the basis for the BellSouth presentation.

In accordance with Section 1.1206, I am filing two copies of this notice in both of the proceedings identified above. Please place this notice in the records of both.

Sincerely,



Kathleen B. Levitz
Vice President – Federal Regulatory

Attachment

cc: Linda Kinney (w/o attachment)
Sarah Whitesell (w/o attachment)
Margaret Egler (w/o attachment)
William Agee (w/o attachment)
Sanford Williams (w/o attachment)
Andrea Kearney (w/o attachment)

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Georgia
3rd Party OSS Testing
FCC discussion

Georgia Third Party OSS Testing

- Georgia Order in Docket ³~~84~~54-U
 - Two Audit Firms
 - Firm A (Hewlett Packard)
 - Conduct the actual test of BellSouth's OSS
 - Conduct feature, function and volume tests using BellSouth's interfaces
 - Report the results of those tests, assessing the functionality and operational readiness of BellSouth's OSS
 - Firm B (KPMG)
 - Independently monitor the tests conducted by Firm A
 - Provide assistance and reports to the Commission and its Staff to assist the audit of these tests
 - Evaluate the transactional and operational testing to determine whether the results reported match the raw data and reports generated by BellSouth's measurement systems

Georgia Third Party OSS Testing

- Test Scope
 - The functionality of the interfaces
 - The performance of the interfaces, including the accuracy of performance reporting related to the interfaces
 - The documentation supporting the development and use of the interfaces
 - The ability of the interfaces to handle large volumes of orders (or to prove they are scalable to large volumes of orders)

Georgia Third Party OSS Testing

- Areas of Testing
 - Functional Testing
 - UNE analog loops (with and without NP)
 - UNE switch ports
 - UNE loop/port combinations
 - Volume Testing
 - Resold Service
 - UNEs (including combinations)
 - Pre-ordering transactions
 - Trouble reports
 - Audit of the data underlying BellSouth's Percent Flow-Through report

Georgia Third Party OSS Testing (Current and Projected Volumes)

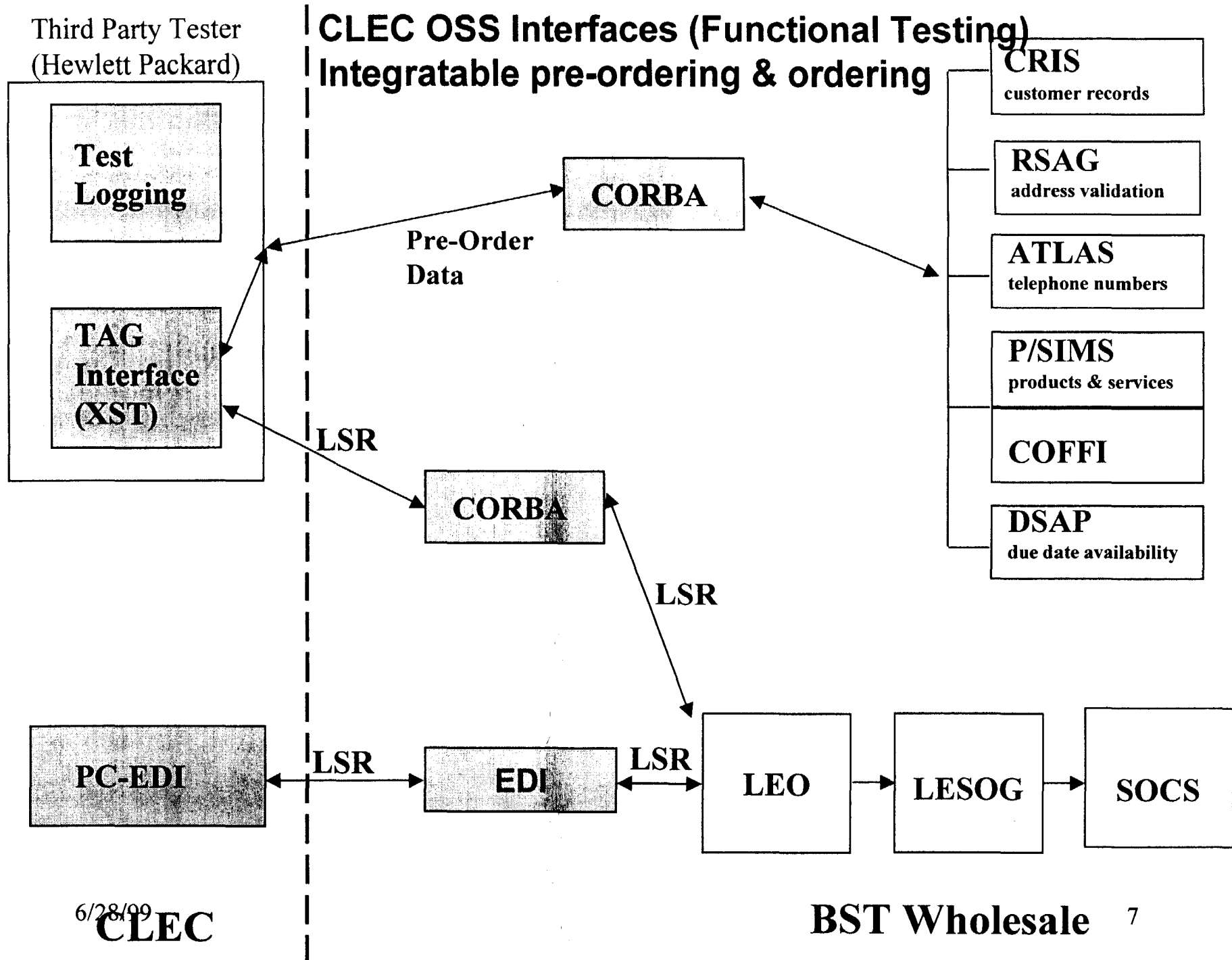
	LSRs received electronically (Jun99, MTD)	LSRs received manually (fax or mail) (Jun99 MTD)	Functional Test	Volume Test	Test Volume (LSRs) (Forecast YE2001)
Simple Residence-Resale	63,115	68,237	No	Yes	185,405
Simple Business-Resale	5,379	9,463	No	Yes	20,949
Complex Business-Resale	1,682	2,473	No	Yes	5,864
UNE	28	9,371	Yes	Yes	557,527
TOTALS					
Monthly	70,204	89,544			769,745
Daily	3,191	4,070			34,988

Georgia Third Party OSS Testing

Test Configurations

Processes	Interface(s)
Pre-Ordering	TAG
Ordering	TAG, EDI
Provisioning	TAG, EDI
Billing	CRIS, CABS, ODUF, ADUF
Maintenance & Repair	TAFI, ECTA

Results of both functional and volume testing will be captured in BellSouth's Performance Measurements Analysis Platform (PMAP) and compared to expected results.



6/28/99

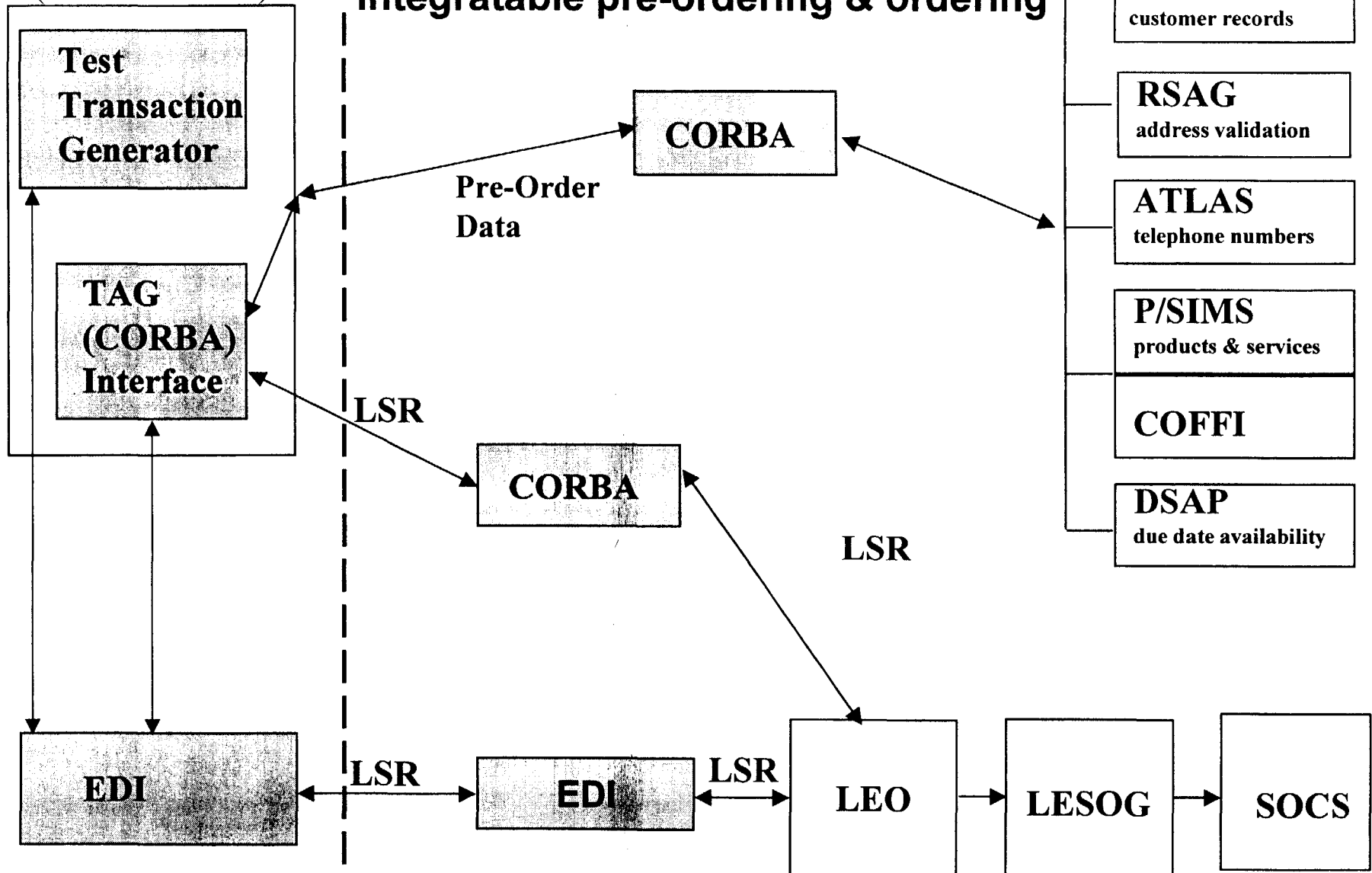
CLEC

BST Wholesale

7

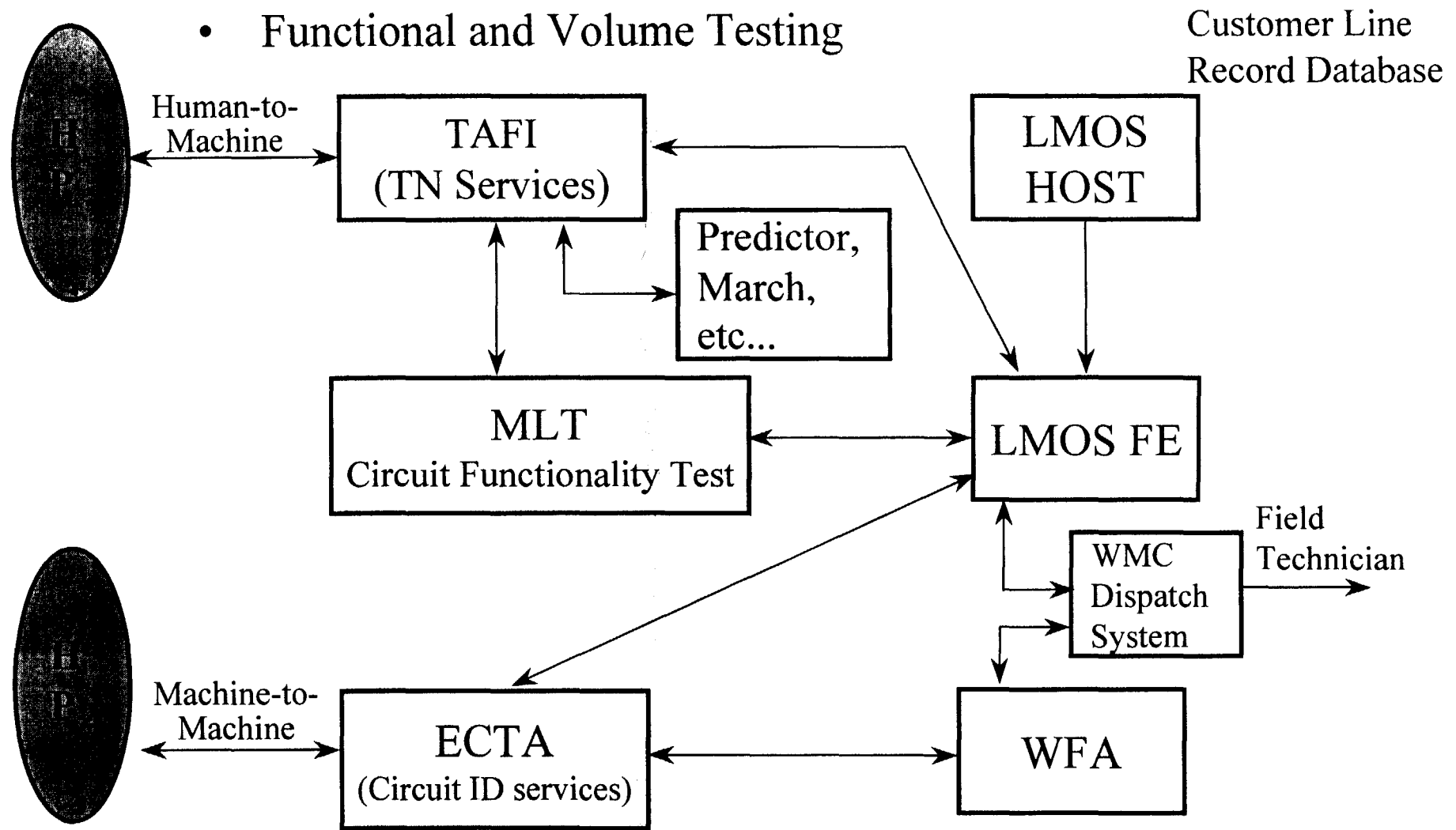
Third Party Tester
(Hewlett Packard)

CLEC OSS Interfaces (Volume Testing) Integratable pre-ordering & ordering



Georgia Third Party OSS Testing

- Maintenance and Repair
- Functional and Volume Testing



Test Descriptions

FUNCTIONAL TESTING:

1. A large number of **test scenarios** are used to test each of the interfaces and processes listed.
2. Each test scenario will generate a number of **test cases** which vary certain components of the scenario across a range of inputs. For example:

Pre-Ordering - Address Validation, **Scenario 101** (p.13, attached)- Transactions will be sent to TAG to test the address validation functionality. Variables include address/telephone number input; customer type; business, residential, UNE; and TAG responses, including deliberate errors.

Ordering and Provisioning - UNE Loop with LNP, **Scenario 349** (p.14, attached)- Local Service Requests (LSRs) will be sent from TAG and EDI to test the ordering process.

Test cases will vary by (1) whether directory listing information is changed by the LSR or processed "as-is"; (2) supplements to the LSR; and (3) errors on the LSR. Additionally, part of the scenarios and test cases will actually be provisioned to allow testing of provisioning information (jeopardies and completion notices), and to generate billing information.

Test order results will be captured and compared to the expected results and to the results reported by PMAP. (i.e. reject timeliness; error messages; FOC timeliness; jeopardy notification; coordinated cutover interval; completion notice timeliness; and billing accuracy)

Additional, similar scenarios and test cases will test maintenance and repair and other billing aspects, e.g. Port+Loop combinations will have a series of test calls placed on them to generate usage data to test both the ODUF and ADUF billing interfaces (Access and local usage).

Documentation: The documentation supporting each business process will be validated during the development of the interfaces for volume testing, and during the functional testing.

VOLUME TESTING:

(1) The forecast volume for regional electronically submitted LSR's at year-end 2001 will be used for volume testing. The forecast is still being validated, but an order volume in the range of 34,000 orders per day is anticipated to be valid.

(2) The volume will include all types of LSR activities processed by the OSS in proportions that reflect the forecast volumes, including resold services, unbundled network elements, number portability, and UNE combinations. A distribution of valid LSR requisition types and activity types will be included.

(3) The volume will include deliberate errors in proportions that reflect the forecast and trended error rates.

(4) Volume testing will be performed on BellSouth's off-line volume test system.

(5) KPMG will validate the forecast methods and conclusions.

(6) KPMG will validate that the volume test system replicates the software loaded on BellSouth's production system, and a hardware configuration that is scalable from BellSouth's production system.

AUDIT:

(1) KPMG will audit BellSouth's OSS flowthrough report as specified.

(2) KPMG will audit interactions between BellSouth and Hewlett Packard to insure that information used to develop the OSS interfaces and test case transactions is publicly available and consistent with the documentation.

(3) KPMG will audit the test results to insure that the results are properly reported, and are accurate.

CURRENT SCHEDULE:**FUNCTIONAL TESTING:**

Start functional tests	7-1-99
Start billing test	7-12-99
Complete first functional test cycle	7-28-99
Complete second functional test cycle	8-31-99
Complete second billing test cycle	9-15-99

VOLUME TESTING:

Start volume testing	8-2-99
Complete first volume test cycle	8-6-99
Complete second volume test cycle	8-12-99
Complete third volume test cycle	8-20-99

AUDIT:

Start flowthrough audit	7-1-99
Complete first audit cycle	8-2-99
Complete second audit cycle	9-3-99
Complete third audit cycle	9-17-99

FINAL REPORT:	9-20-99
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III. Test Plan Framework

A. Scope

The evaluation of BellSouth's OSS infrastructure in accordance with the Georgia Order requires the development of a test framework. The framework will ensure complete coverage of the Georgia PSC's third party testing targets across the dimensions of test scope defined in Section II - Introduction:

- Business Processes
- OSS Interfaces
- Test Objectives
- Product Categories

Test Framework Dimensions			
Business Processes	Interfaces	Test Objectives	Product Categories
Pre-Ordering	TAG	Functionality	Resale
Ordering & Provisioning	TAG EDI	Performance	UNE
Billing	ODUF/ADUF CRIS/CABS	Interface	
Maintenance & Repair	TAFI ECTA	Volume, Scalability	
Forecasting & Change Management	All	Documentation	

Figure III-I: Test Framework Dimensions

Test objectives were mapped across process domains to form objective-oriented tests. These tests were then refined by applicable interface type and/or product category to form test cycles.

Collectively, the domains define the systems, processes, products, and conditions to be tested, or the "test targets." The test approach, or the techniques and delivery vehicles required to execute the Test, are defined by introducing additional dimensions of test methods. Finally, the dimension of performance metrics serves as the basis for determining whether or not an individual test event met stated objectives and achieved expected results. These concepts are described in greater detail below.

B. Approach

Test Methods

Test methods identify the type of testing required to address the test targets. Test methods fall into the following two broad categories:

- transactional analysis
- operational analysis

While transactional testing and operational analysis test cycles are structured in the same format and are evaluated by the same set of metrics, the approach used to execute the Test varies significantly.

Transactional Analysis

Transactional analysis is initiated through test cases and may be characterized by the presence of mechanized systems and electronic gateways supporting the exchange of transaction data and collection of performance metrics. This automated testing process will be triggered by test transactions that exercise the full range of OSS business rules and load conditions.

Operational Analysis

Operational analysis is a multi-dimensional test method focused on the form, structure, and content of the test target. This method addresses the organizational (people), process, and technology aspects of BellSouth's OSS. It can be further divided into *invasive* analyses, which require entry into BellSouth's back-office operations, and *non-invasive* analyses, which may be conducted without direct involvement from BellSouth resources.

Test Techniques

The test methods can be further broken down into test techniques as follows:

<i>Test Method</i>	<i>Test Technique</i>	<i>Description</i>
Transactional	Transaction Processing	Test case execution, logging and comparison to expected results
	Performance Comparison	Comparison of performance results logged by HP's test facilities against BellSouth's performance measures
Operational	Inspection*	Physical review of back-office activities, documents and systems

<i>Test Method</i>	<i>Test Technique</i>	<i>Description</i>
	Interviews*	Directed conversations with BellSouth personnel
	Observation^	Monitoring activities and collecting information by observing and logging events as they occur
	Document Review^	Review and analysis of publications and logs

* Invasive

^ Non-invasive

Figure III-II: Transactional Analysis Evaluation Techniques

Transactional analysis requires the development of test scenarios and test cases, as described below. Operational analysis, by contrast, requires the use of evaluation checklists.

Test Scenarios

Business scenarios will be created to describe the customers, products and services that will be electronically requested from BellSouth. Test scenarios describe the logical and “typical” conditions applicable to a business process.

The test scenarios included in Appendix B of this document address a representative sample of the product, process, and account activity type combinations routinely ordered, billed, and/or repaired by BellSouth.

Test Cases

Each test scenario is translated into multiple test cases. A test case addresses a specific set of test conditions which produce a desired outcome. Each are characterized by a set of procedures designed to execute a specific segment of test data (i.e. a customer account). Each test case contains a set of test conditions and corresponding expected results that, when satisfied, demonstrate that BellSouth is providing nondiscriminatory access.

Test cases are written such that each of the target conditions/outcomes for a given test scenario takes on all possible values at least once (this is known as condition coverage). Test cases must be repeatable, controllable, and recordable for audit and reporting purposes.

Evaluation Checklists

Detailed and comprehensive evaluation checklists will be developed for all test objectives to be analyzed through operational analysis. These

checklists will serve as objective criteria to be applied to inspection, interview, observation and document review activities.

Test Cycles

Test Cycles are the organizational tools which manage the testing process. Every test cycle includes a description of the test, its objectives, scope, entrance criteria, activities and exit criteria. The full set of test cycles is contained in Appendix F - Test Cycles. The results accuracy and reporting phase is required in order to ensure that all test results have been collected, assessed and documented.

Test Tools

Functional testing of BellSouth's OSS through the TAG, EDI, and ECTA interfaces will be conducted using the xst (TAG) Test Client, PC-EDI, and BAT test tools, respectively. All of these tools are made available by BellSouth to requesting CLECs.

The ability of BellSouth's OSS to handle volumes projected for YE01 will be tested via test transaction generators (TTGs). These TTGs will allow normal and stress volumes to be efficiently sent against BellSouth's OSS through the specified interfaces. Volume tests are based on scaling a statistically and functionally representative sample of scenarios to projected volumes. The preliminary volume projection methodology is attached in Appendix C - Volume Analysis.

C. Evaluation & Results

Although transactional testing and operational analysis will generate different results based on their varying approaches, the approach used to gather, assess and report results against those performance metrics will remain consistent across all test cycles.

Results Assessment

Once the results from each test cycle have been collected, they must be assessed in order to determine the performance of the Test. This activity includes comparing the expected results file with the actual results. Additionally, this activity involves verifying that all test conditions in a test cycle have been adequately exercised. Severity 1, 2, and 3 failures or defects will require re-testing.

Defect Class	Definition
Severity 1	An error which causes a program or system interrupt or which causes program execution to abort. AT&T and BELL System personnel refer to this type of error as a "show stopper". This error has the highest severity rating.
Severity 2	A severe error which causes a program not to perform properly or to produce unreliable results. Normally, the user cannot find an appropriate "workaround" for this type of error.
Severity 3	An error for which, while not minor, a "workaround" solution can be found for the user.

Figure III-III: Defect Severity Level Definitions

If a significant number of test conditions fail or are not covered, the test cycle will be rescheduled for execution following the implementation of the appropriate corrective measures.

Results Reporting

Once the results have been assessed, they will be reported. This activity includes migrating the results data into the pre-determined reporting templates. Additionally, the test cycle logs are included as part of the test cycle report. Each test cycle will have its own summary report and test log to sufficiently disaggregate the test results and provide detailed reporting. KPMG is responsible for providing a final independent results report at the end of each test cycle.

Upon completion of each transactional analysis test cycle, KPMG will compare the disaggregated performance metrics and raw data collected by the HP test facilities against the metrics collected by BellSouth's own performance measurements systems.

Performance Metrics

Both transactional testing and operational analysis require evaluation criteria and performance metrics to assess test results. Test performance metrics provide the basis for determining whether or not an individual test event met stated objectives and achieved expected results. This activity serves to sharpen the test approach and scope by defining the specific criteria required to measure the success of each test event. Performance metrics are described in detail in Appendix D - Performance Metrics.

Performance metrics will be developed for each test to determine whether the results deviate from expectations. In those cases where results

deviate, statistical analysis will be undertaken to determine the significance of the deviation.

D. Entrance and Exit Criteria

Each test cycle, by nature of its testing objective, interface type and process domain, mandates specific entrance and exit criteria. However, global entrance and exit criteria span across all test cycles.

Entrance Criteria

Entrance criteria are requirements that must be met before individual tests can commence. Global entrance criteria which apply to every individual test include the following:

<i>Criterion</i>	<i>Responsible Party</i>
The MTP has been filed with the Georgia PSC.	BellSouth
Exception Reporting process has been defined.	Georgia PSC, KPMG, HP, BellSouth
The Georgia PSC has established service quality measurements to be used in the test.	Georgia PSC
All required BST interface capabilities must be operationally ready.	BellSouth

Figure III-IV Global Entrance Criteria

1. The Test Plan has been approved.

The Test Plan must be filed with the Georgia PSC.

2. Exception Reporting process has been defined.

A defined process must be in place by which test defects are identified, assigned, resolved, and escalated. KPMG, HP and BellSouth must agree to this exception reporting process.

3. The Georgia PSC has established service quality measurements to be used in the test.

Metrics to be used in Georgia have been set out in the Georgia PSC's Order. Before many portions of the test can begin, these metrics must be agreed to and fully defined. In addition they must be fully functional, tested, and operationally ready. Fully functional BellSouth measurements are required to support collection of test results and to ensure a method exists to monitor on-going compliance. With assistance from the

independent auditors, the Georgia PSC will assess the operational readiness of all required BellSouth measurements and verify that all requirements have been met.

4. All required BellSouth interface capabilities must be operationally ready.

Electronic interfaces to all OSS access functions of pre-ordering, ordering, provisioning, maintenance and repair, and billing must be fully tested and operational. All GUI interface capabilities must be operational.

In addition to these global entrance criteria, test-specific entrance criteria, where applicable, are defined for each test cycle.

Exit Criteria

Exit criteria are the requirements that must be met before the tests defined in the Test Plan can be concluded. The global exit criteria for each test cycle include the following:

<i>Criterion</i>	<i>Responsible Party</i>
All required test activities must be completed.	KPMG, HP
All change control, verification, and confirmation steps have been completed.	KPMG, HP
KPMG must audit the testing process, monitor the performance of the tests, evaluate the test plans, assess the accuracy of reported results and report to the Georgia PSC	KPMG

Figure III-V Global Exit Criteria

1. All required test activities must be completed.

For each test, all fact finding and analysis activities must be completed. All results and test methodologies have been documented.

2. All change control, verification, and confirmation steps have been completed.

The results of test activities must be documented and reviewed for accuracy. Any results that require clarification or follow-up are confirmed.

3. KPMG must validate the reported results.

KPMG, in its role as an independent auditor, will review test scope, methods, data, and reporting and assess the accuracy of the results. KPMG will then issue an interim report to the Georgia PSC

In addition to these global exit criteria, test-specific exit criteria, where applicable, are defined for each test cycle.

Scenario #101: Address validation.

Scenario Description:

This pre-ordering scenario will test the ability of CLEC to validate customer's address.

Address validation will be queried by either the TN or address.

Test cases will include variations of customer type (Business, Residential, UNE) query criteria (TN or address), address validation response messages (thirteen options) and "resend" orders.

Network Configuration:

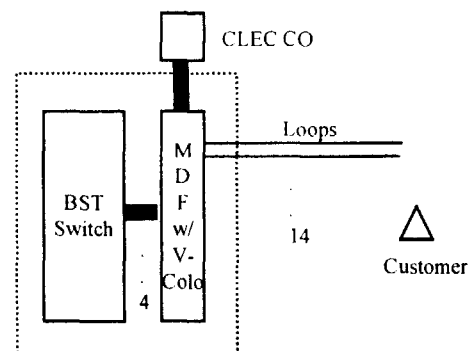
NA

Scenario # 349: A CLEC orders 10 SL1 unbundled analog loops with LNP in support of a partial migration service request from an existing BST customer.

Scenario Description:

A CLEC orders 10 SL1 unbundled analog loops with LNP in support of a partial migration service request from an existing BST customer. The customer currently has 14 lines, 4 of which stay with BST and 10 are migrated "as-specified" to the CLEC.

Network Configuration:



Scenario Summary:

REQTYPE	B
ACT TYPE	V
Partial Migration	X
Flow-Through	X

Scenario Characteristics:

Provisioning	X
Normal Volume	X
Peak Volume	X
EDI	X
TAG	X

Test Case Requirements:

Supplement	X
Errors	X
Cancel	
Directory Listing	X